

Claims

What is claimed is:

1. A method for dynamically analyzing an individual's foot during a stride of the foot, the method comprising:
  - receiving a plurality of pressure readings wherein the pressure readings comprise a position value, a pressure value and a time;
  - determining a cushioning requirement based on the plurality of pressure readings; and
  - determining a pronation requirement based on the plurality of pressure readings.
2. The method of claim 1, further comprising determining a level of cushioning based upon the cushioning requirement.
3. The method of claim 1, further comprising determining a degree of pronation based upon the pronation requirement.
4. The method of claim 1, further comprising determining a level of cushioning and a degree of pronation based upon the cushioning requirement and the pronation requirement.
5. The method of claim 4, further comprising determining a recommended shoe based on the level of cushioning and the degree of pronation.
6. The method of claim 4, wherein determining the cushioning requirement further comprises:
  - determining an average pressure of a forefoot of the foot;
  - determining an average pressure of a heel of the foot;
  - if the average pressure of the heel of the foot is greater than a high threshold value, setting the cushioning requirement as high; and

if the average pressure of the forefoot is less than a low threshold value, setting the cushioning requirement as low, and, if not, setting the cushioning requirement as medium.

7. The method of claim 6, wherein determining the cushioning requirement further comprises determining a speed of the forefoot and adjusting the cushioning requirement based on the measured speed of the forefoot.

8. The method of claim 7, wherein adjusting the cushioning requirement further comprises increasing the cushioning requirement if the speed of the forefoot is greater than a forefoot speed threshold value.

9. The method of claim 4, wherein determining the pronation requirement further comprises:

- analyzing a speed of the foot through the arch;
- analyzing a pressure on the inside of the foot;
- analyzing a pressure of the foot in the arch;
- analyzing the gait of the foot; and
- calculating the pronation requirement based on the analyzing steps.

10. A machine-readable storage medium having stored thereon machine executable instructions, the execution of the instructions is adapted to implement a method for dynamically analyzing an individual's foot during a stride of the foot, the method comprising:

receiving a plurality of pressure readings wherein the pressure readings comprise a position value, a pressure value and a time;

determining a cushioning requirement based on the plurality of pressure readings; and

determining a pronation requirement based on the plurality of pressure readings.

11. The medium of claim 10, further comprising instructions for determining a level of cushioning based upon the cushioning requirement.

12. The medium of claim 10, further comprising instructions for determining a degree of pronation based upon the pronation requirement.

13. The medium of claim 10, further comprising instructions for determining a level of cushioning and a degree of pronation based upon the cushioning requirement and the pronation requirement.

14. The medium of claim 13, further comprising instructions for determining a recommended shoe based on the level of cushioning and the degree of pronation.

15. The medium of claim 13, further comprising instructions for:  
determining an average pressure of the forefoot of the foot;  
determining an average pressure of the heel of the foot;  
if the average pressure of the heel of the foot is greater than a high threshold value, setting the cushioning requirement as high; and

if the average pressure of the forefoot is less than a low threshold value, setting the cushioning requirement as low, and, if not, setting the cushioning requirement as medium.

16. The medium of claim 15, further comprising instructions for determining a speed of the forefoot and adjusting the cushioning requirement based on the measured speed of the forefoot.

17. The medium of claim 16, further comprising instructions for increasing the cushioning requirement if the speed of the forefoot is greater than a forefoot speed threshold value.

18. The medium of claim 13, further comprising instructions for:  
analyzing a speed of the foot through the arch;  
analyzing a pressure on the inside of the foot;  
analyzing a pressure of the foot in the arch;  
analyzing a gait of the foot; and  
calculating the pronation requirement based on the analyzing steps.

19. A system for dynamically analyzing an individual's foot during a stride of the foot, the system comprising a memory and a microprocessor coupled to the memory and programmed to:

receive a plurality of pressure readings wherein the pressure readings comprise a position value, a pressure value and a time;

determine a cushioning requirement based on the plurality of pressure readings; and

determine a pronation requirement based on the plurality of pressure readings.

20. The system of claim 19, wherein the microprocessor is further programmed to determine a level of cushioning based upon the cushioning requirement.

21. The system of claim 19, wherein the microprocessor is further programmed to determine a degree of pronation based upon the pronation requirement.

22. The system of claim 19, wherein the microprocessor is further programmed to determine a level of cushioning and a degree of pronation based upon the cushioning requirement and the pronation requirement.

23. The system of claim 22, wherein the microprocessor is further programmed to determine a recommended shoe based on the level of cushioning and the degree of pronation.

24. The system of claim 22, wherein the microprocessor is further programmed to:

determine an average pressure of the forefoot of the foot;

determine an average pressure of the heel of the foot;

if the average pressure of the heel of the foot is greater than a high threshold value, set the cushioning requirement as high; and

if the average pressure of the forefoot is less than a low threshold value, set the cushioning requirement as low, and, if not, set the cushioning requirement as medium.

25. The system of claim 24, wherein the microprocessor is further programmed to determine the speed of the forefoot and adjust the cushioning requirement based on the measured speed of the forefoot.

26. The system of claim 25, wherein the microprocessor is further programmed to increase the cushioning requirement if the speed of the forefoot is greater than a forefoot speed threshold value.

27. The system of claim 22, wherein the microprocessor is further programmed to:

analyze a speed of the foot through the arch;

analyze a pressure on the inside of the foot;

analyze a pressure of the foot in the arch;

analyze a gait of the foot; and

calculate the pronation requirement based on the analyzing steps.